ON A CERTAIN CAUSE OF STERILITY

AND ITS CURE.

BY

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Vice-President Medical Board Detroit Woman's Hospital and Foundlings' Home; Surgeon to the House of the Good Shepherd; Consulting Gynecologist to the Eastern and Northern Michigan Asylums for the Insane, and to St. Joseph's Retreat; President of the Detroit Academy of Medicine; Lecturer on Obstetrics, Detroit College of Medicine; Fellow of the Detroit and British Gynecological Societies, etc., etc., etc.

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ON A CERTAIN CAUSE OF STERILITY, AND ITS CURE.[1]

In spite of the vast numbers of salpingo-oöphorectomies done yearly—many of them, it is to be feared, unnecessarily—in spite of the increasing prevalence of criminal abortion, and in spite of the Malthusian practices which are invading all countries of the world, the Rachel's cry, "Give me children or I die," continues to go up from the hearts of a host of women—so-called sterile.

Now, as sterility in woman may be not only a source of family sorrow and discord, but, in its far-reaching effects, a national calamity, the subject is one which should occupy no little attention and time of the medical profession, for whatever medical science can suggest or do to relieve the condition results in benefit to the individual and to the state.

Barrenness has been made a cause of action for divorce, and I have recently heard of a case where separation was desired by the husband because it was thought that the wife used checks, and the husband desired children. I have been much interested in looking up the legal aspects of this condition. According to Lushington,[2] the law recognizes as the principal ends of matrimony "a lawful indulgence of the passions to prevent licentiousness, and the procreation of children, according to the evident design of Divine Providence." The former object appears to be of greater importance than the latter, since mere barrenness is not taken into account, the essential being an absence of congenital or acquired (before marriage) defect which will prevent the perfect consum-

[1] Read by invitation before the Bay County (Mich.) Medical Society.

[2] Bishop on Marriage and Divorce, Deane vs. Aveling, p. 175.

mation of marriage. An existing malformation which is capable of cure without too great danger to the individual offers no cause for divorce. "Mere incapability of conception," says Judge Lushington, "is not sufficient ground whereon to found a decree of nullity, and alone so clearly insufficient that it would be a waste of time to discuss an admitted point."

The question of incapability of conception could be settled by a court of law only in respect to anatomical abnormalities, such as absence of vagina, uterus, or ovaries, etc.; but relative or absolute infecundity within the child-bearing age could not be proven by any means at present within the knowledge of jurist or physician. The law, therefore, which takes cognizance only of ascertainable facts, is evidently both correct and just. So-called relative sterility—omitting from discussion Malthusianism—is of such frequent occurrence that to grant a man a decree of divorce from a woman possessing all the attributes of her sex, simply because she has not conceived and borne a living child or children within a period, the limits of which are more or less arbitrarily fixed, would be to render an obvious injury and injustice to both the individual and the community.

To illustrate the length of time which women may go without conceiving, I may mention two instances from my case book in which the patients were sterile (one-child sterility) for twelve and seven years respectively, and then, as the result of a limited amount of local treatment, became pregnant and gave birth to healthy living children. In both of these cases the sterility was evidently due to the cause which is the subject of this paper. Oliver[1] records the case of a gardener's wife who became pregnant for the first time after ten years of full connubial relation; and a still more remarkable instance is reported by Nieden[2] of a woman aged 44 who conceived and bore her first child, a nine-pound girl, after twenty-five years of unfruitful married life.

The influence of sterility on national growth is seen in the present condition of France. Rochard,[3] in a recent paper

[1] Liverpool Medico-Chirurgical Journal, January, 1890.

[2] Archiv für Gynäkologie, No. 5, 1889, page 871.

[3] Review in Internationale; Klinische Rundschau, November 30th, 1890.

before the Academy of Medicine of Paris, states that of ten million French families in 1888, two million, or one-fifth, had no offspring, while two million more had but one child. The effect of this sterility, together with the stringent marriage laws of that country, has given rise to a condition of progressive depopulation which, according to consular reports, seriously menaces the French people.

The last State census of Massachusetts also shows that one-fifth of the married women in that commonwealth are sterile. From this and other data which it will be unnecessary to quote, it would appear that the race of original settlers of this country is fast dying out, the local increase being the result of the multiplication of the foreign resident element.

The conditions which may give rise to or result in sterility in woman are so numerous and varied that a discussion of them all would require the latitude of a book and could hardly even be touched upon within the limits of a paper. I shall therefore confine myself to the brief consideration of a condition which, in my experience, is the most frequent cause of sterility, excepting, perhaps, abnormalities of the sexual tract. I refer to inflammatory conditions of the lining mucosa of the uterine neck and body. After a considerable experience with this class of cases, I am sure that I can say with truth that I have never seen a case of sterility in a woman, not the subject of a malformation or a new growth, in which endo-cervico-metrial inflammation did not exist.

The source of this condition is most frequently attributable, in women who have had children, to parturition or abortion; in the newly-married it may be due to a previously existing slight uterine catarrh in a displaced, usually anteflexed, uterus, or the manifestation of a depraved state of the system. In the majority of the newly-married, however, the endometrial inflammation is probably due to the first efforts at conjugal approach. Observation leads me to believe that many young women, as the result of their activity in the preparation of the wedding trousseau, augmented perhaps by a round of gayeties, late hours, and nervous anticipations or apprehensions, enter the married state in a condition bordering on physical exhaustion, and there begin the engorgements and inflammations which lead to future suffering and sterility.

The effect of repeated coition, provided impregnation does not at once take place, is to flush and distend the uterine vessels, to modify the innervation, to alter the nature of the glandular secretions, and thus to produce such changes in the endometrium as lead to inflammation and reflex phenomena. Backache, leucorrhea, and irritable bladder are the ordinary signs of this condition; but frequently rectal tenesmus, head and gastric symptoms, dysmenorrhea, and menorrhagia are added in the more pronounced forms of the disease.

In many cases the disease continues in a mild catarrhal form, giving the patient little inconvenience beyond the slight leucorrheal discharge which stains her clothing; but often this is sufficient to prevent the normal formation of the deciduæ and attachment of the ovum, even should impregnation have taken place. I have seen a number of cases of regularly menstruating women in whom all the symptoms pointed to frequent, almost monthly, abortions.

Physical examination in these mild forms reveals a cervix more or less softened, the os externum reddened and inflamed, and the canal filled with a plug of sago, white of egg, or muco-purulent discharge. In many cases there exists a sensitive spot at the os internum over which the passing of the most delicate probe causes a spasm of exquisite suffering, and where the mucosa of the fundus uteri is also involved the merest pressure of the probe against it elicits pain. Frequently a few drops of blood follow the withdrawal of the instrument. During the intermenstrual period, under normal conditions, according to Tyler Smith,[1] a plug of clear, viscid mucus, which is secreted by the glands of the cervical canal, blocks up that passage, but is washed away each month by the menstrual discharge. This obstruction must seriously interfere, under ordinary conditions, with the entrance of the spermatozoa into the cavity of the womb, and renders the former theory, recently revived by Bossi,[2] that impregnation is most likely to occur just after the menstrual epoch, quite tenable.

But here we must consider another element in the prevention of conception, due to the inflammatory changes in the

[1] "Pathology and Treatment of Leucorrhea," Philadelphia, 1855, p. 46.

[2] Nouvelles Archives d'Obstet. et Gynécol., April, 1891.

mucosa. The reaction of the normal vaginal mucus is acid, that of the cervix alkaline; but, as the result of the inflammatory conditions present, the reaction of each is often greatly intensified, especially of the vagina, which also frequently has an exceedingly sour and penetrating odor. This acid discharge, bathing the neck of the uterus, penetrates more or less into the cervical plug and causes coagulation of the alkaline mucus. Mitchell states that the cervical canal often has an acid reaction, but I must agree with Haussmann[1] that the condition is not due to the local glandular secretion, but is transferred from the vagina.

In normal condition the alkalinity of the seminal fluid appears to be sufficient to neutralize the acidity of the vaginal secretion, so that the spermatozoa may remain for seventeen days or longer (Bossi) within the vaginal canal, even during a menstrual period, without having their vitality destroyed.

When the hyperacidity of the vaginal secretion is present, however, it is altogether probable that the fertilizing element is at once rendered inert; but should any of the spermatozoa by chance succeed in reaching the os externum and cervical canal, the coagulated mucus, and the increased alkalinity of the secretion there, would, in all probability, put an end to further progress.

The conditions, then, in the disease under consideration, which appear to prevent fecundity, are:

1. The absence of a proper nidus for the ovum.

2. The obstruction of the cervical canal by the mucous plug.

3. The increased alkalinity of the cervical secretion, often accompanied by an exaggerated acidity of the vaginal mucus.

The causes of sterility once understood, treatment is easily inaugurated. Our first object is to bring about a normal condition of the endometrium—a task which is often difficult, and may necessitate treatment extending over a period of many months. Intra-uterine applications, the curette, and not infrequently the dilator must be called into service. The vaginal secretions must be corrected by douches and alkaline washes, and the bowels regulated. Whenever the general

[1] "Ueber das Verhalten der Samenfaden in den Geschlechtsorganen des Weibes," D. Haussmann, Berlin, 1879.

system is lowered in tone tonics are indicated, and it is often wise to continue their use until some time after the local symptoms have subsided. Where the nervous system is much deranged general faradism and massage are of the greatest benefit, while sedatives and nerve tonics are always of importance whenever indicated.

As illustrating the condition, the symptoms, and treatment which I have briefly rehearsed, I have selected two cases from my records, believing that these will serve to make clear the preceding remarks as well as would a hundred of the same kind.

Case I.—Mrs. K., German, age 26, married two years, but has never been pregnant, and is very desirous of having a child. She has suffered three or four years, and has been under several physicians, but has obtained no relief. Complains now of pain in right side and of intense itching of vulva.

Menstruation began at 15, regular until marriage, but since has appeared every three weeks. Formerly flowed four or five days, using three or four napkins; now one to two days, with one napkin. Pain just before flow, kneeache, backache, etc. Her sufferings now are so severe that she is obliged to be in bed during a part of the time. A white, thick leucorrheal discharge is persistent. Bowels constipated. General health good.

Physical Examination.—Uterus retroverted, normal size, mobility good; length of cavity two and three-quarter inches. Cervix long, conoid; external os slightly relaxed, showing inflamed mucous membrane. Canal filled with glairy mucus. Blood follows withdrawal of probe. The labia minora project some distance below the larger lips, and their mucous covering is skin-like and harsh.

Diagnosis.—Endometritis, conoid cervix. Pruritus vulvæ, due to profuse leucorrheal discharge.

Treatment continued over seven months, twenty-two visits. This consisted in dilatation of the uterine canal with Ellinger's dilator, the application of campho-phenique and iodized phenol to the cavum uteri, painting the cervix with tincture iodine, and tannin and iodoform-glycerin dressings. Cocaine, campho-phenique, and a ten-per-cent solution of silver nitrate

were applied to the labia. On one occasion she had vaginal negative galvanism for ten minutes. Cathartics and general tonics were also given. Two months after treatment was discontinued she became pregnant, and in due time I delivered her of an eight and one-half pound boy after a normal labor.

Case II.—Mrs. B., age 23, a thick-set, healthy-looking brunette, married between three and four years. Two years and a half ago she aborted at three months, and flowed for thirteen weeks subsequently. Menstruation began at 15, irregular and scanty; pain for three days before, and during the first two days. Complains now of severe burning in left ovarian region, which is worse a week before the flow. Has a profuse, rusty leucorrhea. Bowels constipated. General health good.

Physical Examination.—Perineum very strong and thick. Vagina small, tight, and sensitive, rather rough feel; examination almost impossible on account of the vaginal spasmodic contraction. Pressure over ovaries causes considerable pain; no enlargement apparent. Conoid cervix; no indication of previous abortion. Cavity about two and one-half inches. Cervix closed, hard; blood follows probe. Vaginal secretion very sour, with penetrating odor.

Diagnosis.—Ovarian hyperemia; endometritis catarrhalis; vaginismus; hyperacidity of vaginal secretion.

Patient seen fifteen times during a period covering several months. At first only sedatives were given; later local applications of potassium-iodide glycerin, and hot vaginal douche, once a day, were employed. At the eleventh visit I thoroughly dilated the uterine canal, under an anesthetic, with Goodell's dilator, and swabbed the cavity with iodized phenol. Treatment continued at irregular intervals for a few months, when, the patient becoming pregnant, it was suspended. She was delivered of a seven and three-quarter pound male child at term, and became again pregnant about eight months later.

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